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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,112	06/20/2003	Stephan Karl Barsun	200209739-1	7760

22879 7590 06/28/2005

HEWLETT PACKARD COMPANY  
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INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER
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DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/600,112	<b>Applicant(s)</b> BARSUN ET AL.	
	<b>Examiner</b> Tho v. Duong	<b>Art Unit</b> 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) 12,17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-11,13,14,16,18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/9/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Receipt of applicant's amendment filed 4/18/2005 is acknowledged. Claims 1-5,8-14,16-19 are pending. Claim 12 and 17 remain withdrawn from further consideration.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-5,8-11,13-14,16 and 18-19 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5,8-11,13,14,16 and 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Wildmayer (US 5,582,240). Wildmayer discloses (figures 1 and 2) a device for removing heat from an electronic component, comprising a heat sink (200) adapted to couple to the electronic component and conduct heat therefrom; a plurality of fins being integral part of the heat sink to transfer heat into a cooling air, wherein the fins are oriented at an obtuse angle with respect to a plurality of flow streams (102,201) across the fins and wherein each flow stream of the plurality follows a unique direction. Wildmayer further discloses (figure 2) that the space between most of the fins is substantially even and the flow stream is following in all 4

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perpendicular directions. Regarding claims 2, 9, 13 and 18, Wildmayer discloses (figure B as bellow) the small angle of curved fins is to gradually change the direction of the airflow.

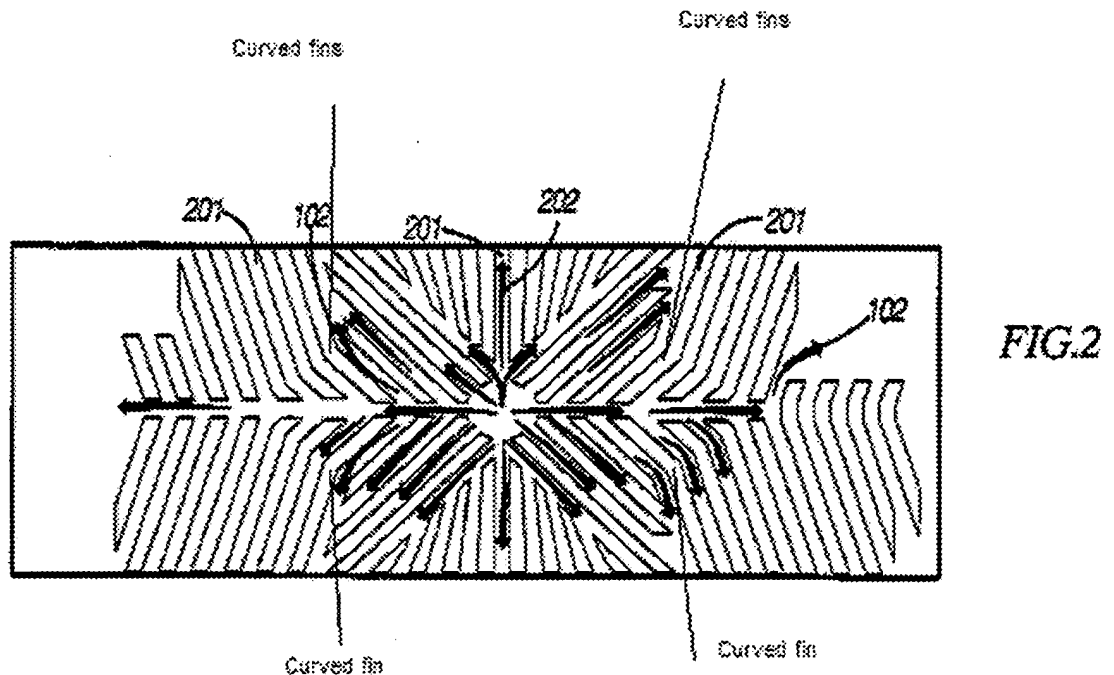


Figure B: the modified figure corresponds to figure 2 with curved fins shown

Claims 1-5, 8-11, 13, 14, 16 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Horng et al. (US 6,697,256). Horng discloses (figures 1 and 2) a device for removing heat from an electronic component, comprising a heat sink (2) adapted to couple to the electronic component and conduct heat therefrom; a plurality of curved fins being integral part of the heat sink to transfer heat into a cooling air, wherein the fins are oriented at an obtuse angle with respect to a plurality of flow streams (air exits to two side edge of the heat sink)) across the fins and wherein each flow stream of the plurality follows a unique direction in a gradual change of direction. Horng further discloses (figure 2) that the space between most of the fins is substantially even and the flow streams toward the two side edges are perpendicular.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,8-11,13,14,16 and 18-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suntio (US 6,313,399). Suntio discloses (figures 3, 4 and figure A as follow) a device for removing heat from an electronic component (100), comprising a heat sink (300,400) adapted to couple to the electronic component and conduct heat therefrom; a plurality of curved fins (401) being integral part of the heat sink to transfer heat into a cooling air, wherein the fins (401) are oriented at an obtuse angle with respect to a plurality of flow streams across the fins and wherein each flow stream of the plurality follows a unique direction in channels (402) in a gradual change of direction. Suntio further discloses (column 2, lines 51-56) that the wide gap at the lower edge and/or side of the heat sink suck lot of air into the device. Since the lower edge and the side edge are orthogonal to each other, it would have been obvious to one of having ordinary skill in the art to see that the flow streams approaching each edge is substantially orthogonal to each other. As illustrated in figure A, the fluid streams (A) and (B) are oriented substantially orthogonal to each other. Regarding claims 1, 9 and 14, Suntio does not disclose that the space (402) is even through out

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the flow channels but the space (402) between most of the fin (401) is substantially even at one side of the edge.

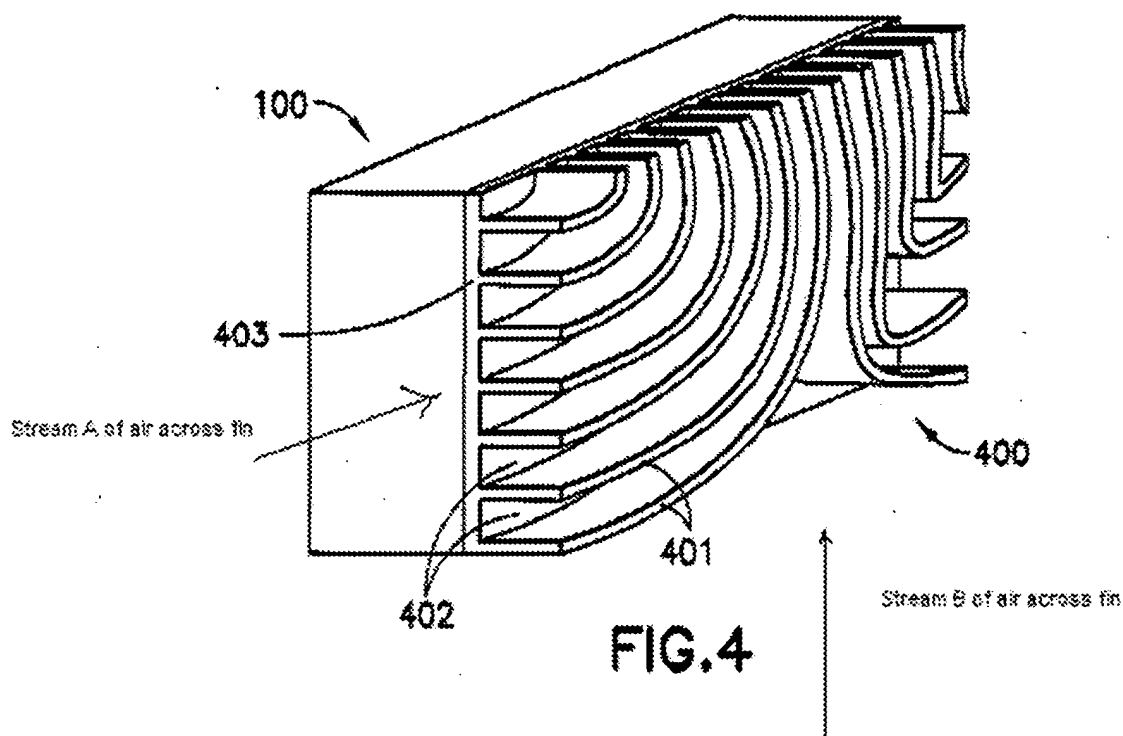


Figure A: The modified figure corresponds to figure 4 with flow of stream air shown.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

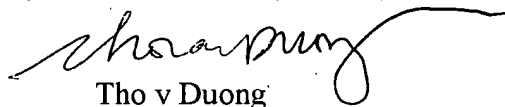
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tho v. Duong whose telephone number is 571-272-4793. The examiner can normally be reached on M-F (first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet can be reached on 571-272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TD

TD  
June 17, 2005

  
Tho v Duong  
Primary Examiner  
Art Unit 3743